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Dong-Ryong Kim

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EXAMINER

RICHER, AARON M

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/813,280	Applicant(s) KIM ET AL.	
	Examiner AARON M. RICHER	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 March 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-53 is/are pending in the application.
- 4a) Of the above claim(s) 8-29 and 36-53 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 and 30-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Election/Restrictions***

1. Claims 8-29 and 36-53 stand withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the election requirement in the reply filed on March 4, 2008.
2. Applicant's election with traverse of species "a" in the reply filed on March 4, 2008 is acknowledged. The traversal is on the ground(s) that all of the species share common subject matter, are likely to be found in the same subclasses, and therefore no undue burden has been placed on the examiner. This is not found persuasive because each of the species contains a different method for performing orientation sensing, and searching out five separate methods of orientation sensing constitutes a clear burden on the examiner. Examiner also notes that Hall effect sensors are classified in 324/207.2 while magnetoresistive sensors are classified in 324/207.1. Even if the two concepts were classified together, to search out five different combinations of various magnets and sensors, all of which are described independently in applicant's specification, would clearly necessitate different text searches, which would also constitute an undue burden on the examiner.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

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4. Claims 32 and 35 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

5. Claim 32 recites the limitations "the first sensor", "the second sensor", "the third sensor", "the fourth sensor", "the first direction signal", "the second direction signal", "the third direction signal", and "the fourth direction signal". There is insufficient antecedent basis for these limitations in the claim. Claim 35 also recites these limitations, which also lack antecedent basis in that claim.

6. Claims 32 and 35 further recite a method taking place in a direction detecting section "if composed of first and second magnets and the first sensor, the second sensor, the third sensor and the fourth sensor for detecting the first and second magnets". It is unclear from this limitation whether these components are actually part of the claim or not. If these components are not part of the claim, then the claim is not further limiting of claim 31, since the method only occurs if these components are present. These components are therefore essential elements of the claim, and since they are only *possibly* there, it is unclear whether this claim has the essential elements needed to be a functioning invention.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-5 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Mizuta (U.S. Patent 2004/020532).

9. As to claims 1, 4, and 30, Mizuta discloses a device for displaying a picture in a mobile terminal, which comprises:

a camera module for photographing an image signal (fig. 1a-1e; element 121; p. 4, section 0061);

an image processing section for processing the image signal photographed by the camera module in a display picture size (fig. 4, element 119; p. 4, sections 0066-0067);

a direction detecting section comprising at least one magnet fixed within the mobile terminal and a plurality of sensors for detecting the magnet in order to detect the direction in which the mobile terminal is turned and generating a first direction detecting signal, a second direction detecting signal, a third direction detecting signal, and a fourth direction detecting signal (p. 3-4, sections 0051-0058; four positions are disclosed, each with a different signal generated based on sensors that detect a magnet);

a control section for outputting picture data having an orientation based on the detected direction (fig. 4, element 114; p. 4, section 0066-0068; a picture that would otherwise be upside down is flipped);

and a display section for displaying the picture data (fig. 1b-1e, element 202).

10. As to claims 2 and 5, Mizuta discloses a device wherein said control section outputs data in an upright direction when the first direction detecting signal is generated, in a direction turned 90 degrees counter-clockwise when the second direction detecting signal is generated, in a direction turned 180 degrees when the third direction detecting signal is generated, or in a direction turned 270 degrees counter-clockwise when the fourth direction detecting signal is generated (p. 4, sections 0056-0058; positions of 0 degrees, 180 degrees, and 90 degrees clockwise, which equals 90 degrees counterclockwise in the current invention, since the inventions' frames of reference appear to be 180 degrees apart, are disclosed; p. 4, sections 0066-0068 disclose at least displaying upright data in 0, 90, and 180 degree orientations; since the picture data is automatically flipped).

11. As to claim 3, Mizuta discloses a device wherein said direction detecting section comprises: first and second magnets fixed within the mobile terminal; and a first sensor, a second sensor, a third sensor, and a fourth sensor for detecting the first and second magnets according to the direction in which the mobile terminal is turned and generating a corresponding direction detecting signal (fig. 4, elements 111a, 111b, 111c, 204a and 204c; fig. 5a-5b, same elements plus 111d and 204b; p. 3, sections 0052-0053; also see fig. 6; 4 sensors are used along with 2 magnets to detect a direction the screen is facing).

Claim Rejections - 35 USC § 103

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12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuta in view of Yang (U.S. Patent 6,459,606).

14. As to claim 6, Mizuta discloses a direction detecting section comprising at least one magnet fixed within the mobile terminal and a plurality of sensors for detecting the magnet in order to detect the direction in which the mobile terminal is turned and generate a first direction detecting signal, a second direction detecting signal, a third direction detecting signal, and a fourth direction detecting signal; a control section for outputting picture data having an orientation based on the detected direction; and a display section for displaying the picture data as described above in the rejection to claim 1.

Mizuta does not disclose a device which comprises a tuner for receiving a composite television video signal broadcast on a selected channel; a decoder for decoding the composite video signal to generate an analog video signal and a synchronizing signal; a video processing section for converting the analog video signal into a digital video data, processing the digital video data in a frame size and outputting a frame video signal and user data in the frame. Yang, however, discloses a tuner (fig. 1, element 20), with analog decoder (fig. 1, element 26), that also generates a sync signal (col. 3, lines 46-64). The output of this is

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converted to digital (fig. 1, element 42) and then displayed (fig. 1, element 46) along with user data (col. 4, lines 5-15; incoming call data for a user is displayed on the screen). This display is clearly limited by its size and therefore reads on a frame video signal in a frame size. The motivation for using this TV receiver in a cellular phone/camera such as the Mizuta invention is to provide a mobile phone user with TV entertainment, eliminate the need for the user to carry another device, and also allow a user to be informed of incoming events (col. 1, lines 16-27; col. 1, line 66-col. 2, line 2). It would have been obvious to one skilled in the art to modify Mizuta to include combination phone/TV receiver circuitry in order to provide TV entertainment but also allow a user to be informed of incoming events as taught by Yang.

15. As to claim 7, see the rejection to claim 2.

16. Claims 31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuta in view of Buxton (U.S. Patent 6,115,025).

17. As to claim 31, Mizuta explicitly discloses detecting signals for directions, and displaying picture data in a manner that the user perceives as upright if the display is in a "horizontal", 0, or 180 degree position as described in the rejection to claim 2. While it appears that turning the Mizuta device in a 270 degree direction clockwise would also give this result, this is not explicitly stated in the reference. While it appears to examiner that one skilled in the art would understand how to make a device that is capable of reorienting to a 270 degree direction with the Mizuta reference alone, it is also noted that other references teach such a limitation more explicitly. Regarding this, Buxton explicitly teaches

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that the orientation of a display does not change when a user rotates the display (col. 2, lines 22-26; col. 3, lines 21-28; col. 4, lines 26-55). Every time a display is moved, a signal is sent to the computer to change the orientation of the user interface (fig. 6) to match the user's viewing position. This would include reorienting the interface to a 270 degree clockwise orientation if the display is turned in this direction. The motivation for this is to allow a user to read and interact with a display intuitively, rather than forcing a user to interact with an interface differently every time a monitor is rotated (col. 2, lines 2-26). It would have been obvious to one skilled in the art to modify Mizuta to reorient an interface to a 270 degree clockwise direction, equivalent to the claimed 270 degree counterclockwise invention, since the Mizuta reference appears to be oriented 180 degrees away from the current invention, if the display were turned in that direction in order to allow a user to interact with a display intuitively as taught by Buxton.

18. As to claim 32, as best understood, Mizuta discloses a method wherein said direction detecting section, if composed of first and second magnets and the first sensor, the second sensor, the third sensor and the fourth sensor for detecting the first and second magnets, generates:

the first direction signal when no direction detecting signal is output from the sensors, thereby displaying the picture data in the upright direction (fig. 6; p. 4, sections 0056-0058; when no sensors are triggered, the invention is in a "normal communication position" indicating an upright direction);

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the second direction signal when the second sensor detects the first magnet, thereby displaying the picture data in a direction turned 90 degrees counter-clockwise (fig. 6; p. 4, sections 0056-0058; when 111b detects 204a, the device is in a 90 degrees clockwise position, equivalent to the claimed 90 degrees counterclockwise position as explained above; p. 4, sections 0066-0068 describe the horizontally oriented image generated when this occurs);

the third direction signal when the second sensor detects the first magnet and simultaneously the third sensor detects the second magnet, thereby displaying the picture data in a direction turned 180 degrees (fig. 6; p. 4, sections 0056-0058; when 111b and 111c detect 204a, the display is folded but away from the base and therefore 180 degrees from the upright position; p. 4, sections 0066-0068 describe the flipping of a 180 degree image);

Mizuta does not disclose a method where the fourth direction signal when the first sensor detects the first magnet, thereby displaying the picture data in a direction turned 270 degrees counter-clockwise, since as noted in the rejection to claim 31, Mizuta does not disclose this direction in the first place. However, it is very clear from figure 6 of Mizuta that if the first magnet were to be in the hypothetical position Lo5, directly across from Lo2, the first magnet would be picked up by the first sensor 111a. This would also clearly correspond to a 270 degrees (clockwise in Mizuta/counter-clockwise in the claimed invention) angle from the original position. Mizuta alone does not explicitly teach a re-oriented 270 degree angle position, as noted above in the rejection to claim 31.

However, the rejection to claim 31 also notes that Buxton teaches this limitation,

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motivated by allowing a user to interact more intuitively. It is therefore noted that, applying the teachings of a 270 degree angle in Buxton to the magnet/sensor invention of Mizuta, one skilled in the art would easily see that the addition of a 270 degree angle to Mizuta would require the first magnet to be picked up by the first sensor.

It is further noted that there is no disclosed criticality in applicant's disclosure that would lead one to believe that the particular sensor setup of the claim has advantages over other sensor setups, so even with different magnet/sensor positions, one skilled in the art would expect the invention to work exactly as well as the claimed invention for the task of direction detection.

19. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuta in view of Berrou (U.S. Publication 2004/0263478).

20. As to claim 33, Mizuta discloses a method for displaying a picture on a mobile terminal which includes a direction detecting section comprising at least one fixed magnet and a plurality of sensors for detecting the magnet, said method comprising the steps of: detecting a direction signal indicating the direction in which the mobile terminal is turned, using a sensor; and outputting and displaying picture data in an orientation based on the detected signal, as described above in the rejection to claim 1.

Mizuta does not disclose the sensor actually contacting the magnet. Berrou, however, discloses detection of a position of a mobile communication device by determining which magnets contact a number of sensors (p. 3, section 0046). The motivation for using contact holes and studs in particular is for the

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position detection system to double as a mechanical blocking system for stabilization (p. 3, section 0049). It would have been obvious to one skilled in the art to modify Mizuta to have the sensors contact the magnets in order to have the position detection system also stabilize the device as taught by Berrou.

21. Claims 34 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizuta in view of Berrou and further in view of Buxton.

22. As to claim 34, see the rejection to claim 31.

23. As to claim 35, see the rejection to claim 32.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AARON M. RICHER whose telephone number is (571)272-7790. The examiner can normally be reached on weekdays from 8:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AMR
3/21/08

/Kee M Tung/
Supervisory Patent Examiner, Art Unit 2628